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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
TRAN, DALENA

ART UNIT	PAPER NUMBER
3661	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/845,179	NADA, MITSUHIRO
	Examiner	Art Unit
	Dalena Tran	3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Notice to Applicant(s)

1. This office action is responsive to the amendment filed on 4/11/03. As per request, claims 1,4-16, and 18-24 have been amended, claims 25-51 have been added. Thus, claims 1-51 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 20-21, are rejected under 35 U.S.C.102(b) as being anticipated by Arnston et al. (4,128,005).

As per claim 20, Arnston et al. disclose an abnormality diagnostic system capable of storing abnormality diagnostic data corresponding to an abnormal event detected in a vehicle, comprising: a processor for identifying the detected abnormal event with a diagnostic code (see column 4, lines 23-69; and column 7, lines 12-45), a common data storing section for storing as the abnormality diagnostic data for a plurality of abnormal events, common data which is common against all abnormal events irrespective of a difference in diagnostic codes (see columns 6-7, lines 57-3), and an inherent data storing section for storing data selectively obtained in accordance with the diagnostic code, the data being identified as inherent data to the abnormal event (see columns 7-8, lines 46-15; and columns 8-9, lines 59-25).

Claim 21 is method claim corresponding to system claim 20 above. Therefore, it is rejected for the same rationales set forth as above.

4. Claim 29, is rejected under 35 U.S.C.102(b) as being anticipated by Shirane et al. (5,491,631).

As per claim 29, Shirane et al. disclose an abnormality diagnostic system capable of storing abnormality diagnostic data corresponding to an abnormal event detected in a vehicle, comprising: a common data storing for storing as the abnormality diagnostic data for a plurality of abnormal events, common data which is common irrespective of a difference in the abnormal events and includes data indicative of behavior of the vehicle (see columns 10-11, lines 14-38), and an inherent data storing for storing as the abnormality diagnostic data, inherent data which is inherent to each of the abnormal events and includes a data of a component which relates to the abnormal event (see columns 11-12, lines 39-45).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-19, 22-26, and 30-49, are rejected under 35 U.S.C.103(a) as being unpatentable over Arnston et al. (4,128,005) in view of Marshall et al. (4,373,186).

As per claims 1,25-26,30, and 48-49, Arnston et al. disclose an abnormality diagnostic system capable of storing abnormality diagnostic data used for abnormality diagnosis corresponding to an abnormal event when an abnormality is detected in a vehicle, comprising: a

common data storing section for storing as the abnormality diagnostic data for a plurality of abnormal events, common data which is common irrespective of a difference in the abnormal events (see the abstract; columns 6-7, lines 58-3; and columns 7-8, lines 46-14), and an inherent data storing section for storing as the abnormality diagnostic data, inherent data which is inherent to each of the events, the inherent data and common data corresponding to successively detected abnormal events being stored in order in which the abnormal events were detected (see columns 1-2, lines 41-16; columns 4-6, lines 52-57; column 7, lines 29-45; and column 8, lines 15-47). To modify the teach of Arnston et al., Marshall et al. disclose an example of a table of inherent data and common data corresponding to successively detected abnormal events being stored in order in which the abnormal events were detected (see columns 9-13, lines 3-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Arnston et al., by combining an example of a table of inherent data and common data corresponding to successively detected abnormal events being stored in order in which the abnormal events were detected to demonstrate how the inherent data and common data corresponding to successively detected abnormal events being stored in order for a diagnostic evaluation of the operating condition of vehicle engine is achieved based on function relationships with respect to currently measured engine parameter values and correlating a plurality of evaluative judgments regarding engine operating parameters.

As per claims 2, and 31, Arnston et al. disclose storing the abnormality diagnostic data (see columns 4-6, lines 52-57), judging an abnormal event when the abnormality is detected (see columns 9-10, lines 3-63), selecting the inherent data corresponding to the judged abnormal event (see columns 10-11, lines 64-20), and writing the selected inherent data together with the

common data to the storing as the abnormality diagnostic data corresponding to the abnormal event (see column 7, lines 4-45).

As per claims 3,10, and 32, Arnston et al. disclose common data includes data indicative of behavior of the vehicle (see columns 3-4, lines 1-22).

As per claims 4-5,11-15,33-34,37, and 41-44, Arnston et al. disclose the inherent data includes a plurality of data, and data length of each data is constant irrespective of a difference in the abnormal events (see column 7, lines 4-45).

As per claims 6, and 35, Arnston et al. disclose a common storing region in which each of the inherent data can be commonly stored (see columns 8-9, lines 15-2), and writes the inherent data to the common storing region (see column 7, lines 4-45).

As per claim 7, Arnston et al. disclose common data includes data indicative of behavior of the vehicle (see columns 3-4, lines 1-22).

As per claims 8,9,36, and 38, Arnston et al. disclose the inherent data includes a plurality of data, and data length of each data is constant irrespective of a difference in the abnormal events (see column 7, lines 4-45).

As per claim 40, Arnston et al. disclose the inherent data comprises a plurality of data, and data length of each data is constant irrespective of a difference in the abnormal events (see column 7, lines 4-45).

Claim 16 is a method claim corresponding to system claims 1-2 above. Therefore, it is rejected for the same rationales set forth as above.

Claims 17-19 are method claims corresponding to system claims 1-2 above. Therefore, they are rejected for the same rationales set forth as above.

As per claims 22, and 45, Arnston et al. disclose the common data and the inherent data corresponding to detected abnormal events are stored in the common data storing section and the inherent data storing section respectively, as long as there are unused memory location in the common data storing section and the inherent data storing section (see columns 6-7, lines 57-3; columns 7-8, lines 46-15; and columns 8-9, lines 59-2).

As per claims 23-24, and 46-47, Arnston et al. disclose common and inherent data corresponding to a first abnormal event is stored in a first memory area which is different from a second memory area in which the common and inherent data corresponding to a second abnormal event, and common and inherent data corresponding to successively occurring and substantially same abnormal events, are stored in the common data and inherent data storing section for each of the substantially same abnormal events (see columns 6-9, lines 57-2).

7. Claims 27-28, and 50-51, are rejected under 35 U.S.C.103(a) as being unpatentable over Arnston et al. (4,128,005), and Marshall et al. (4,373,186) as applied to claims 1, and 30 above, and further in view of Shirane et al. (5,491,631).

As per claims 27 and 50, Arnston et al., and Marshall et al. do not disclose inherent and common data are stored in an order. However, Shirane et al. disclose the inherent and common data corresponding to successively detected abnormal events are stored in an order in which the abnormal events are detected (see columns 12-14, lines 45-38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Arnston et al., and Marshall et al. by combining the inherent and common data corresponding to successively detected abnormal events are stored in an order in which the abnormal events are

detected for perform a necessary specific work procedure sequentially according to the priority of abnormal diagnostic.

As per claims 28 and 51, Arnston et al., and Marshall et al. do not disclose numbers or symbols corresponding to the order are stored. However, Shirane et al. disclose in addition to storing data corresponding to abnormalities in an order in which the abnormalities are detected, numbers or symbols corresponding to the order are also stored together with a diagnostic code and a freeze frame data (see columns 7-9, lines 50-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Arnston et al., and Marshall et al. by combining numbers or symbols corresponding to the order are also stored together with a diagnostic code and a freeze frame data for identifying the portion which has generated the abnormal signal and a value of the abnormal signal.

Remarks

8. Applicant's argument filed on 4/11/03 has been fully considered and they are deemed to be persuasive. However, upon updated search, the new ground of rejection has been set forth as above.

Applicant's general argument on page 10, first paragraph that "Arnston et al. and Marshall et al. not detect an abnormality diagnostic system in which all of the common data are stored as abnormality diagnostic data". However, Arnston et al. disclose that in the abstract; columns 6-7, lines 58-3; and columns 7-8, lines 46-14, as cited in item 6 above; in the abstract, engine specifications, and column 6, lines 58-66, the normal operating specifications of the engine operating parameters, the maximum and the minimum specification limit of the engine parameter are all the common data refer to the claim.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 703-308-8223. The examiner can normally be reached on M-F (7:30 AM-5:30 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on 703-308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

TAN Q. NGUYEN
PRIMARY EXAMINER

/dt
June 11, 2003